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10/614,134	07/08/2003	Kenichi Sakamoto	501.37526CX1	5988

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EXAMINER

LEVITAN, DMITRY

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2461

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/614,134	Applicant(s) SAKAMOTO ET AL.	
	Examiner Dmitry H. Levitan	Art Unit 2461	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-19 and 21-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-19 and 21-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Amendment, filed 2/18/10, has been entered. Claims 2-19 and 21-23 remain pending.

Claim Rejections - 35 USC § 103

1. Claims 2-19, 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCloghrie (US 6,035,105) in view of Chase (US 6,081,524).

2. Regarding claims 2, 5, 6, 9 and 10, McCloghrie substantially teaches the limitations of claims:

A packet communication apparatus, method and system to transmit a packet from a first network to a second network (LAN switch 103 interconnecting two networks 102 on Fig. 1 and 2:33-49, wherein each network comprises multiple VLANs, as also shown on Fig. 3), wherein the packet includes destination address (inherently part of any packet, because a destination address is essential for any packet routing) and a Virtual Private Network/VPN identifier (each VLAN identifies each frame/packet with a VLAN identifier 1:50-65, shown on Fig. 1 and 2 as tag 107) used to identify first VPN in the first network comprising:

A packet generating unit/router which generates a second VPN identifier used to identify a second VPN in the second network based on the destination address and information in the first VPN identifier (LAN switch 103 on Fig. 1 and 3:7-14 generating a second header by changing tag 107 as shown on Fig. 2 and 3:49-67, changing the first VLAN identifier to a second VLAN identifier of the corresponding second VLAN network, as described on 1:59-63); and

A transmitter, which transmits a packet having thereto said second VPN identifier (LAN switch 103 on Fig. 1 and 3:7-14 changing VLAN identifier 1:59-63)

wherein the first VPN is interconnected to the plurality of VPNs in the second network (first VLAN 106, shown on an upper portion of Fig.1, interconnected through LAN switch 103 to a second network 102, shown on the bottom portion of Fig. 1, comprising multiple VLANs with unique names, as shown on Fig. 3 and disclosed on 5:35-47).

McCloghrie teaches the networks as LANs utilizing the packets with MAC address (disclosed on 4:33-44) and use of layers 2 and 3 in the LAN switch 103 operation (disclosed on 2:42-46 and 3:24-37).

McCloghrie does not teach implementing his method in IP environment, wherein the packets are IP packets and VPN identifiers are on Layer 2 and the destination IP address is on layer 3.

Chase teaches identifying Virtual Private Networks in IP environment, as switch 402 to connect a frame relay (or ATM) network to Virtual Private IP networks VPN A and VPN B, shown on Fig. 7 and 9 and disclosed on 5:45-6:12 and 6:51-7:12, wherein layer 2 frames carry layer 3 address information, which is extracted and used for routing the frames in Virtual Private IP networks, as disclosed on 3:25-41, including IP address on 4:42-44.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add implementing his method in IP environment, wherein the packets are IP packets and VPN identifiers are on Layer 2 and the destination IP address is on layer 3 to the system of McCloghrie to implement the method in widely used IP networks, like Internet.

In addition, regarding claim 6, McCloghrie teaches receiving the packet (3:7-14).

3. Regarding claims 3, 7 and 11, McCloghrie teaches replacing the first identifier with the second identifier (VLAN identifier replacement process 1:59-63).

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4. Regarding claims 4, 8 and 12, McCloghrie teaches a route decision processing unit (LAN switch 103) which routes the packet to the second network according to the destination address (MAC address 4:33-44) and information in the first header (VLAN identifier/tag 107 4:62-64) using IP address of Chase instead of MAC address, as shown above.

5. Regarding claims 13, 16, 17 and 21, McCloghrie substantially teaches the limitations of claims:

A packet communication apparatus, method and system to transmit a packet from a first network to a second network (LAN switch 103 and two networks 102 on Fig. 1 2:33-49, each network comprises appropriate VLAN), wherein the packet includes destination address (inherently part of any packet, because a destination address is essential for packet routing) and a first VPN identifier (each VLAN identifies each frame/packet with a VLAN identifier 1:50-65, shown on Fig. 1 and 2 as tag 107) used to identify first VPN in the first network comprising:

An index and packet generating unit/router which generates a second VPN identifier used to identify a second VPN network in the second network based on the index, as the index is based on the destination address and the first identifier (LAN switch 103 on Fig. 1 and 3:7-14 generating a second VLAN identifier by changing index/tag 107 as shown on Fig. 2 and 3:49-67, based on the index/tag in table 206 as shown on Fig. 2 and 5:2-33, according to the VLAN identifier replacement process 1:59-63); and

A transmitter which transmits a packet having thereto said second VPN identifier (LAN switch 103 on Fig. 1 and 3:7-14).

McCloghrie teaches networks as LANs utilizing the packets with MAC address (4:33-44) and use of layers 2 and 3 in the LAN switch 103 operation (disclosed on 2:42-46 and 3:24-37).

McCloghrie does not teach networks implementing IP and the IP packets including IP address wherein the packets are IP packets and VPN identifiers are on Layer 2 and the destination IP address is on layer 3.

Chase teaches identifying Virtual Private Networks in IP environment, as switch 402 to connect a frame relay (or ATM) network to Virtual Private IP networks VPN A and VPN B, shown on Fig. 7 and 9 and disclosed on 5:45-6:12 and 6:51-7:12), wherein layer 2 frames carry layer 3 address information, which is extracted and used for routing the frames in Virtual Private IP networks, as disclosed on 3:25-41, including IP address on 4:42-44).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add implementing his method in IP environment, wherein the packets are IP packets and VPN identifiers are on Layer 2 and the destination IP address is on layer 3 of Chase to the system of McCloghrie to implement the method in widely used IP networks.

6. Regarding claims 15, 19 and 23, McCloghrie teaches a route decision processing unit (LAN switch 103) which routes the packet to the second network according to destination address (MAC address 4:33-44) and information in the first header (VLAN identifier/tag 107 4:62-64) using IP address of Chase instead of MAC address, as shown above.

7. Regarding claims 14, 18 and 22, McCloghrie teaches replacing the index with a second VPN identifier (removing an identifier/tag of the first network with appropriate encapsulation/header and identifier for the second network 1:50-67 and 2:1-6).

Response to Arguments

1. Applicant's arguments filed 2/18/10 have been fully considered but they are not persuasive.

On pages 10 and 11 of the Response, Applicant argues that implementing McCloghrie method in IP environment of Chase will result in a system patentably different from the claims, because a potential conflict in environment with multiple VPNs in the second network sharing the same IP address can be avoided.

Examiner respectfully disagrees.

Claims limitations are directed to the plurality of VPNs in the second network for a packet with an IP address without any indication of the VPNs using the same or different IP addresses.

The claims limitations, directed to IP environment implementation, comprise operations of using destination IP address on layer 3 and using second VPN identifier on layer 2.

These operations are essential for any transmission in IP environment on a particular VPN and are disclosed by Chase on 3:22-4:41.

In addition, current claims limitations, directed to IP environment and use of VPN identifier, read on the operation of Prior Art system, as shown on Fig. 4 and described on page 13 of the disclosure.

In the personal interview with the Attorney of 2/17/10, Examiner indicated that claims amended to reflect the system operation as shown on Fig. 5 and 6 and described on pages 13-15, are potentially allowable.

However, current claims comprise no limitations, directed to a security improvement in the router operation, by excluding mixing of the received packets in the router with other packets, shown on Fig. 5 and disclosed on [0015].

Applicant's arguments on pages 11 and 12, directed to Chase teaching of discarding layer 2 and layer 3 information, are irrelevant, as these features of the invention are not directly claimed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitry H. Levitan whose telephone number is (571) 272-3093. The examiner can normally be reached on 8:30 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dmitry H. Levitan/
Primary Examiner, Art Unit 2461